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EXAMINER	
ABELSON, RONALD B	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/051,897	ERICKSON, ERIC V.	
	Examiner	Art Unit	
	Ronald Abelson	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,14-17 and 19-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,14-17 and 19-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *1/17/2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 6, 9-12, 14-17, and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson (US 6,963,926) in view of Basso (US 7,002,906) and Jantz (US 6,487,677).

Regarding claim 1, Robinson teaches providing a communication platform comprising at least one ingress port (fig. 1 element S, node NS, col. 6 lines 18-23), at least one egress port (fig. 1 element D, node ND, col. 6 lines 18-23) and a plurality of channel resource devices (fig. 1 elements A, B, H, node NA, node NB, node NH, col. 6 lines 16-23), in which said channel resource devices operate to establish call connections in the communication platform between the at least one ingress port and at least one egress port (Setup Request message, node NA, forward message to node NB, col. 7 lines 14-29).

Robinson teaches obtaining connection outcome results of previous call connections handled by the channel resource devices wherein the connection outcome results are indicative of channel failures (call request blocked, cranked back, col. 2 lines 49-51).

Robinson teaches a statistical analysis wherein the statistical analysis provides an indication of reliability of the channel located in the communication platform (each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37, 39-41).

Robinson teaches assigning an incoming call to at least one available channel resource device of the plurality of channel resource devices, said at least one available channel resource device selected at least in part, in response to statistical analysis (each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37, 39-41).

Although Robinson teaches receiving connection outcome results of previous call connections handled by the channel resource devices wherein the connection outcome results are indicative of channel failures (call request blocked, cranked back, col. 2 lines 49-51), the reference does not explicitly

teach the connection outcome results are indicative of channel resource device failures.

Basso explicitly teaches the connection outcome results are indicative of channel resource device failures (crankback, block transit type "node resource device failures", col. 4 lines 31-39)

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Robinson by transmitting a crankback signal in the event of a resource device failure / node blocked, as suggested by Basso. This modification can be performed in software according to the teachings of Basso. This modification would benefit the system by informing upstream channel resource devices of downstream channel resource device failures.

Although the combination teaches a statistical analysis wherein the statistical analysis provides an indication of reliability of the channel located in the communication platform (Robinson: each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37, 39-41), and providing an indication of the reliability of the channel resource device (Basso: crankback, block transit type "node resource device failures", col. 4 lines

31-39), the combination does not explicitly teach generating a statistical analysis based at least in part, on the connection outcome results wherein the generated statistical analysis provides an indication of reliability of the channel resource devices located in the communication platform and "assigning" based upon the generated statistical analysis in the selection. Note, Robinson is silent as to the "link blocking probabilities" being generated dynamically.

Jantz explicitly teaches generating a statistical analysis based at least in part, on the connection outcome results (updating, calculating probability of success as a function of historical information, col. 9 lines 61-64).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by updating the link blocking probabilities based upon historical information / crankback and assigning an incoming call based upon the updated link blocking probabilities, as suggested by Jantz. This modification can be performed in software. This modification would benefit the system the system by ensuring that the link blocking probabilities reflect the current network environment.

Regarding claim 16, Robinson teaches a channel evaluator (fig. 1 see nodes, each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37, 39-41) on a communication platform in which the communication platform comprises at least ingress port (fig. 1 element S, node NS, col. 6 lines 18-23), at least egress port (fig. 1 element D, node ND, col. 6 lines 18-23), and a plurality of channel resource devices (fig. 1 elements A, B, H, node NA, node NB, node NH, col. 6 lines 16-23), in which said channel resource devices operate to establish call connections in the communication platform between the at least one ingress port and at least one egress port (Setup Request message, node NA, forward message to node NB, col. 7 lines 14-29).

Robinson teaches statistical analysis providing an indication of reliability of the channel resource devices located in the communication platform (each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37, 39-41)

Robinson teaches a storage buffer (fig. 1 see nodes, each node has a routing table containing a list of nodes ranked in

order of their link blocking probabilities, col. 2 lines 33-37, 39-41).

Robinson teaches a call router for routing incoming calls to available channel resource devices selected in response to the generated statistical analysis (fig. 1 see nodes).

Although Robinson teaches the channel evaluator using statistical analysis that provides an indication of reliability of the channel located in the communication platform, the reference does not explicitly teach connection outcome results are indicative of channel resource device failures.

Basso explicitly teaches the connection outcome results are indicative of channel resource device failures (crankback, block transit type "node resource device failures", col. 4 lines 31-39)

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Robinson by transmitting a crankback signal in the event of a resource device failure / node blocked, as suggested by Basso. This modification can be performed in software according to the teachings of Basso. This modification would benefit the system by informing upstream channel resource devices of downstream channel resource device failures.

Although the combination teaches a statistical analysis wherein the statistical analysis provides an indication of reliability of the channel located in the communication platform (Robinson: each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37, 39-41), and providing an indication of the reliability of the channel resource device (Basso: crankback, block transit type "node resource device failures", col. 4 lines 31-39), the combination does not explicitly teach generating a statistical analysis based at least in part, on the connection outcome results wherein the generated statistical analysis provides an indication of reliability of the channel resource devices located in the communication platform Note, Robinson is silent as to the "link blocking probabilities" being generated dynamically.

Jantz explicitly teaches generating a statistical analysis based at least in part, on the connection outcome results (updating, calculating probability of success as a function of historical information, col. 9 lines 61-64)

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by updating the link blocking probabilities based upon historical

information / crankback, as suggested by Jantz. This modification can be performed in software. This modification would benefit the system the system by ensuring that the link blocking probabilities reflect the current network environment.

Regarding claim 2, the step of assigning an incoming call to the at least one available channel resource device is performed using the statistical analysis to identify channel resource devices that successfully connect calls (Robinson: each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37).

Regarding claim 3, a non-preferred channel resource device is one which fails to connect calls, and wherein the step of assigning incoming call to the at least one available channel resource device, comprises to not assign the incoming call to the non-preferred channel resource device (call request blocked at all exists cranked back, col. 2 lines 48-51).

Regarding claim 4, the step of storing being performed after the step of receiving connection outcome results from previous call connections. (Robinson: each node has a routing table containing a list of nodes ranked in order of their link

blocking probabilities, col. 2 lines 33-37).

Regarding claim 6, the statistical analysis is a no weighting method (Robinson: each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37).

Regarding claim 9, classifying the available channel resource device based at least in part, on the statistical analysis (Robinson: each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37).

Regarding claim 10, the method is self adjusting in which, an available preferred channel resource device becomes an available non-preferred channel resource device due to a failure call connect attempt and the available non-preferred channel resource device becomes the available preferred channel resource device due to a successful call connect attempt (Robinson: each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37). Note, the examiner maintains the list is dynamically updated due

to crank back information (extends a routing history, packet returned, col. 2 lines 53-58).

Regarding claim 11, indicating to a user / originator a change in channel resource device status (col. 2 lines 41-43).

Regarding claim 12, determining which channel resource devices are available (Robinson: each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37).

Regarding claim 14, assessing a failure to the available channel resource device upon an unsuccessful call connection through the channel resource device (Robinson: call request blocked, cranked back, col. 2 lines 49-51).

Regarding claim 15, reassigning the incoming call to a next preferred available channel resource device (Robinson: each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37).

Regarding claim 17, channel evaluator classifies available channel resource devices, at least in part on the statistical

analysis generated from the previous call connect results. (Robinson: each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37).

Regarding claim 19, channel evaluator classifies channel resource devices, at least in part on the availability of a channel resource device (Robinson: each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37).

Regarding claim 20, incoming calls are assigned to available channel resource devices, and connected to the channel resource devices through the call router based at least in part, on the statistical analysis. (Robinson: each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37).

Regarding claims 21 and 22, available channel resource devices are one of a plurality of ingress ports, egress ports, and a plurality of channel processors / nodes (Robinson: each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37).

Regarding claim 23, available channel resource device failures are hardware failures (Basso: blocked transit type can be node, col. 4 lines 31-34).

3. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Robinson , Basso, and Jantz as applied to claim 4 above, and further in view of McKee (US 6,810,343).

The combination is silent on the buffer is a circular buffer.

McKee teaches a circular buffer (col. 3 lines 19-22).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by incorporating within the routing table a circular buffer. The suggestion for the modification is circular buffers allows for the storing of the most recently collected data by continuously overwriting the previously collected data (McKee: col. 3 lines 19-22). This enables an efficient use of buffer space.

4. Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Robinson, Basso, and Jantz

as applied to claim 1 above, and further in view of Lin (US 5,831,976).

The combination is silent on time-weighting.

Lin teaches time-weighting (col. 7 lines 47-49).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by time weighing the connection outcome results. This modification can be performed in software. This modification would benefit the system by allowing for the most recent, which are the most relevant, connection outcome results to be given more weight than results that transpired far in the past.

5. Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Robinson, Basso, and Jantz as applied to claim 1 above, and further in view of McCallister (US 20010010681).

The combination is silent on an asymmetrical weighting method wherein success receives one value, and failure receives another value.

McCallister teaches an asymmetrical weighting method wherein success receives one value, and failure receives another value (physical failure, node attempts to reroute). Note, a

single physical failure determines rerouting, therefore failure is given a higher weight than success.

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by rerouting due to a single physical failure. This modification can be performed in software. This modification would benefit the system by performing immediate rerouting due to a physical failure.

6. Claim 24 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Robinson, Basso, and Jantz as applied to claim 1 above, and further in view of applicant's admitted prior art 'AAPA'.

AAPA teaches channel resource device failures being software (pg. 3 lines 2-4).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by storing in the routing table whether the call processor failed due to a software error. This modification can be performed in software. This modification would benefit the system by not routing to a call processor if the call processor is currently inoperable due to a software failure.

Response to Arguments

7. Applicant's arguments filed 4/19/07 regarding amended independent claims 1 and 16 have been fully considered but they are not persuasive.

The Examiner disagrees with the applicant's contention that the combination does not disclose 'channel resource devices to establish call connections in a communication platform between at least one ingress port and at least one egress port' (applicant: pg. 9 section (a)). As shown above, Robinson teaches providing a communication platform comprising at least one ingress port (fig. 1 element S, node NS, col. 6 lines 18-23), at least one egress port (fig. 1 element D, node ND, col. 6 lines 18-23) and a plurality of channel resource devices (fig. 1 elements A, B, H, node NA, node NB, node NH, col. 6 lines 16-23), in which said channel resource devices operate to establish call connections in the communication platform between the at least one ingress port and at least one egress port (Setup Request message, node NA, forward message to node NB, col. 7 lines 14-29).

The Examiner disagrees with the applicant's contention that the combination does not disclose 'generating a statistical

analysis based at least in part, on the connection outcome results, wherein the generated statistical analysis provides an indication of reliability of the channel resource devices located in the communication platform' (pg. 12 section (b)). As shown in the office action, Robinson teaches 'obtaining connection outcome results of previous call connections handled by the channel resource devices wherein the connection outcome results are indicative of channel failures' (call request blocked, cranked back, col. 2 lines 49-51) 'statistical analysis wherein the statistical analysis provides an indication of reliability of the channel located in the communication platform' (each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37, 39-41). However, although Robinson teaches the node generating a crankback signal in response to a failure, the reference is not explicit as to whether the failure is in the node or the link to the node. Basso explicitly teaches generating a crankback signal in response to a failure of the node. As shown in the office action, although Robinson teaches providing an indication of reliability of the channel (each node has a routing table containing a list of nodes ranked in order of their link blocking probabilities, col. 2 lines 33-37, 39-41) and providing an indication of the reliability of the channel

resource devices, the combination of Robinson and Basso are silent on generating the statistical analysis in response to the indication. As stated above, Robinson does not explicitly state that the 'list of nodes ranked in order of their link blocking probabilities' is updated dynamically. Jantz explicitly teaches the concept of 'generating the statistical analysis in response to the indication' / dynamic update (updating, calculating probability of success as a function of historical information, col. 9 lines 61-64).

The Examiner disagrees with the applicant's contention that the office action states "historical information" and "crankback" are interchangeable concepts (pg. 12 last paragraph). The Examiner however maintains that a crankback signal is a form of historical information since the crankback signal informs the receiving node of a prior failure of a downstream node to process the call setup.

The Examiner disagrees with the applicant's contention that there is no motivation to combine Jantz with Robinson and Basso (pg. 12 section (i)). As admitted by the applicant, both Robinson and Basso teach crankback. In addition, Robinson teaches route selection based on the probability of success of

the routes through the nodes of the network. Furthermore, crankback information provides dynamic information on the probability of success of the routes through the nodes of the network. However, the combination of Robinson and Basso are silent and ensuring that the routing tables reflect the current probabilities of success of the routes through the network. Jantz explicitly teaches the concept of updating the probability of success based upon dynamic information. Thus the Examiner maintains it would have been obvious for one of ordinary skill in the art to combine the teachings of Jantz with the combination of Robinson and Basso. As stated in the MPEP

> ***The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art at the time the invention was made. See In re Keller 642 F.2d 413, 208 USPQ 871 (CCPA 1981).***

The Examiner disagrees with the applicant's contention that 'Even if combined, Jantz does not teach the applicant's claimed limitation' (pg. 14 section (ii). The applicant states, "no discussion in Jantz that the statistical analysis is generated to indicate the reliability of the channel resource devices" (pg. 14 2nd to last paragraph). As shown in the office action Robinson teaches statistical analysis / a list of nodes ranked in order of their link blocking probabilities, to indicate the reliability of channels for routing. Furthermore, Robinson teaches generating an indication of the reliability of the channel / crankback. Basso teaches generating an indication of the reliability of the channel resource devices / (crankback, block transit type "node resource device failures"). Although Robinson teaches routing based upon the probability of success of the routes, the reference does not explicitly teach updating the probability of success information to insure that the probability of success information is current. Jantz explicitly teaches updating the probability of success information to insure that the probability of success information is current. Therefore, the Examiner maintain the combination of Robinson, Basso, and Jantz not only teaches the limitations of the claimed invention, but also the combination of the reference would have

been obvious to one of ordinary skill in the art at the time of the invention.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald

Abelson whose telephone number is (571) 272-3165. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RA

Ronald Abelson
Examiner
Art Unit 2616

7/2/07

WING CHAN
SUPERVISORY PATENT EXAMINER

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